Southeast Regional Initiative 2009–2011

NOAA FISHERIES

John Tomczuk
Tim Battista
Andrew Shepard
George Sedberry
Andrew David

Southeast Regional Initiative 2009–2011

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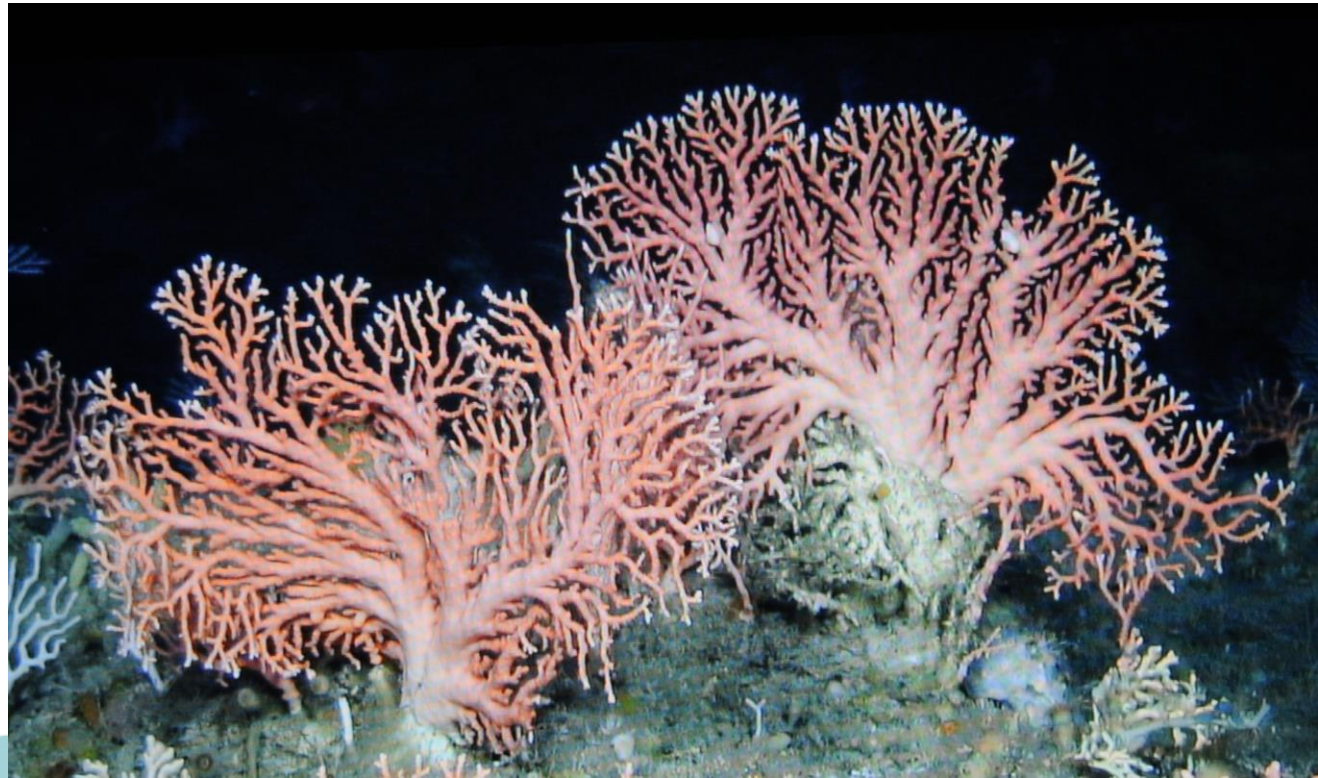
OAR
NOS/NCCOS
UNCW/CIOERT
NOS/ONMS
NMFS



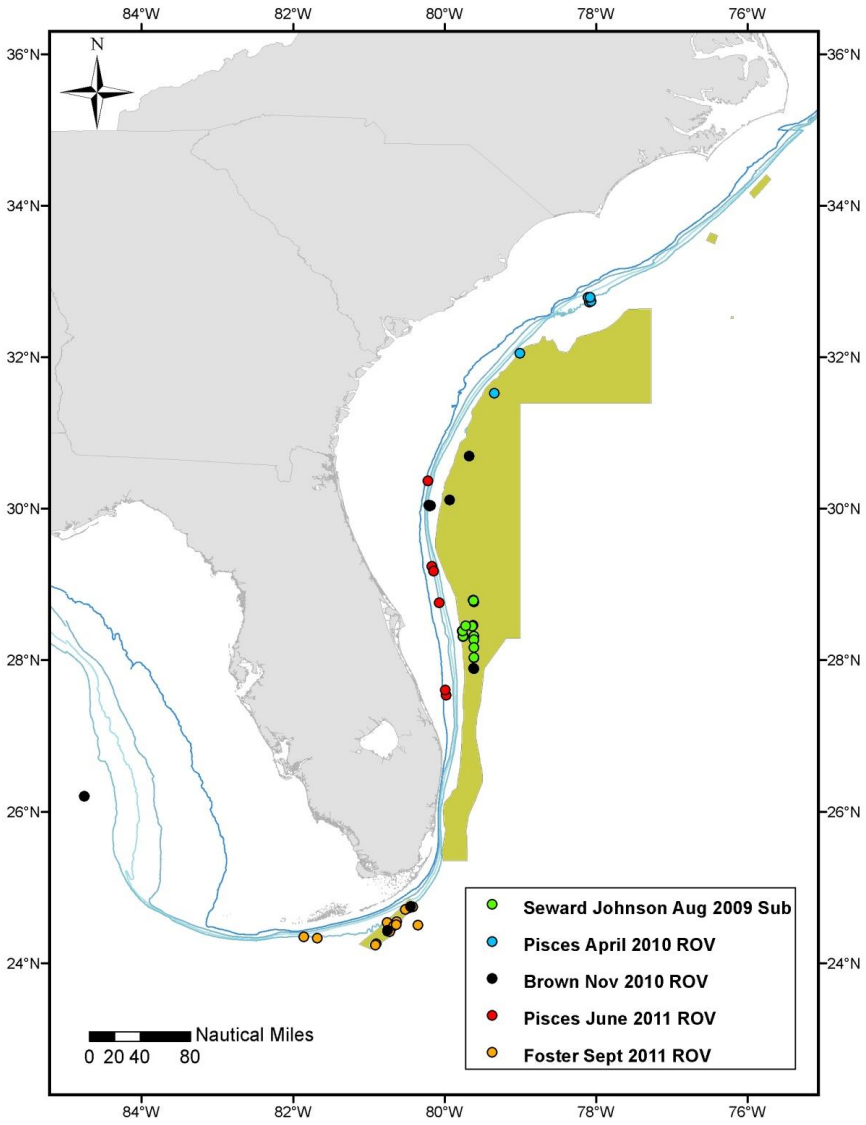
Objectives of the Initiative

SOUTHEAST – First region to be studied under the national effort to examine deep-sea corals across the country.

- Map and characterize deep-sea coral habitats in the proposed CHAPCs.
- Understand species and coral habitat relationships and the factors that control or influence them.
- Conduct research to identify and assess areas impacted by fishing and non-fishing activities.

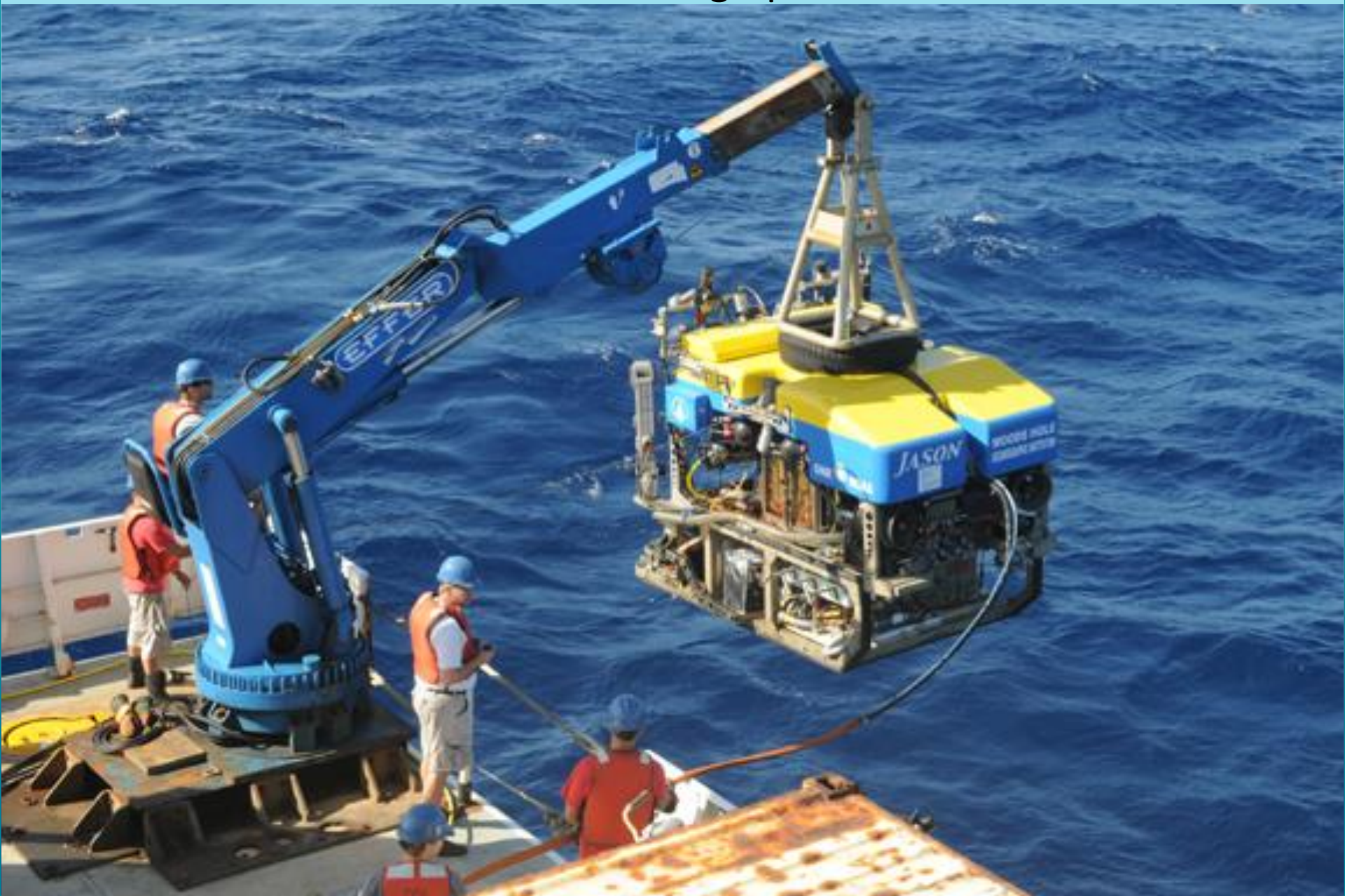
Lophelia pertusa
Shallowest record in U.S. at 205m
Off Jacksonville, FL 30° 01.666’ N -080° 11.608’ W

Summary of Work



- 7 Major cruises
  - (2 mapping only)
  - (2 ROV/Sub only)
  - (3 ROV & mapping)
- 22 Submersible dives
- 36 ROV dives
- 10,100 km^2 mapped
- *Lophelia* found at shallowest and southernmost locations in the US
- Possible new species of crustaceans collected
- Predictive coral habitat map

ROV *Jason II*
Woods Hole Oceanographic Institute

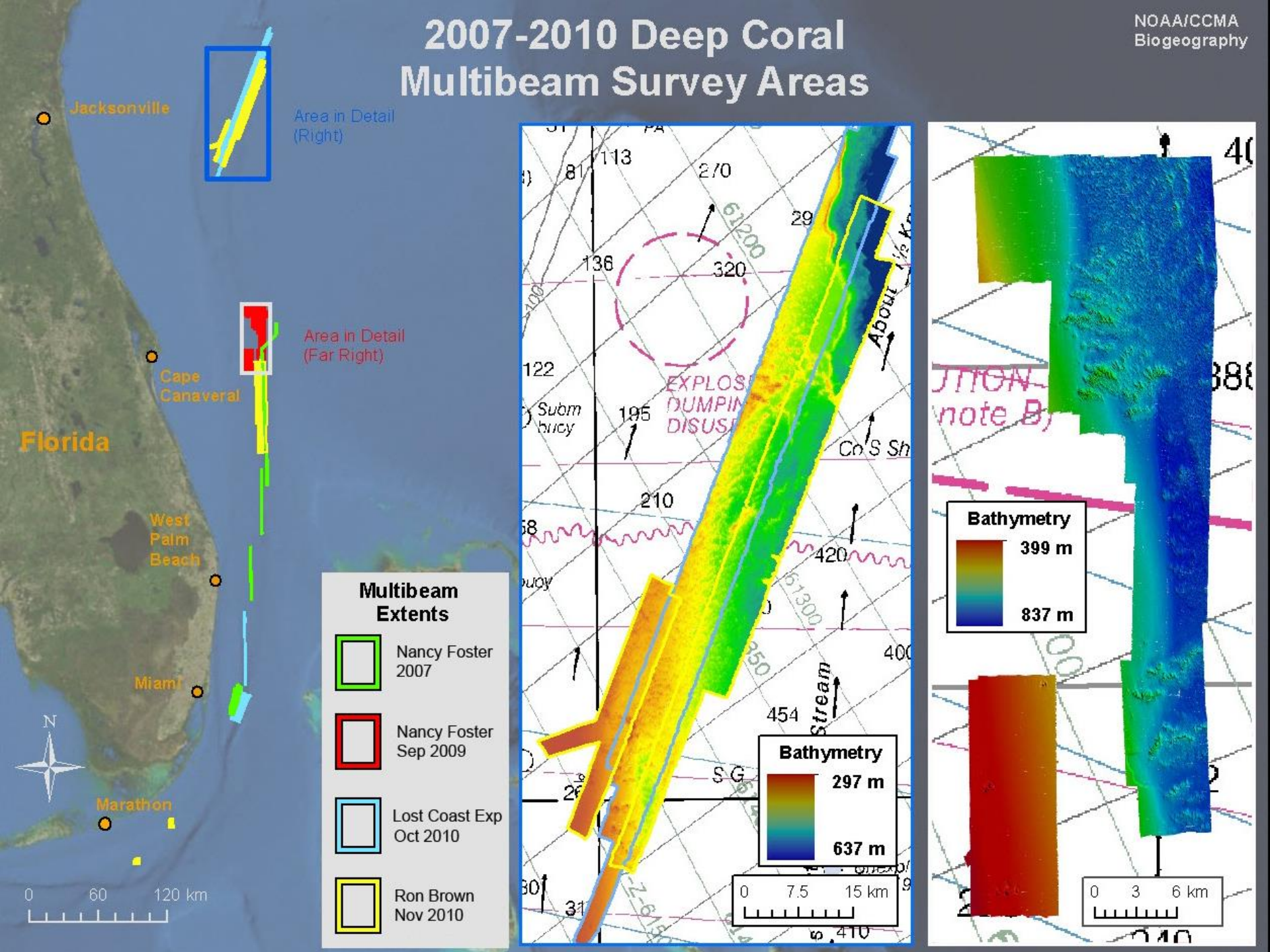


Results

- Cruises using ROV teams familiar with working in high currents were more successful.
- Dedicated mapping cruises were successful, both with NOAA and non-NOAA vessels and personnel.
- Cruises were critical to SAFMC's expansion of Deep Coral HAPC.
- Mapping on dual purpose cruises were successful on vessels with Survey Departments capable of operating multibeam sonars.
- Cruises scheduled during winter months were negatively impacted by weather.
- Two cruises exceeded expectations; Pisces 2011 which was adapted on the fly due to currents yet discovered habitat which resulted in direct management action and Foster 2011 which had exceptional conditions in the Florida Straits and made several discoveries in an area with notoriously difficult currents and surface weather.

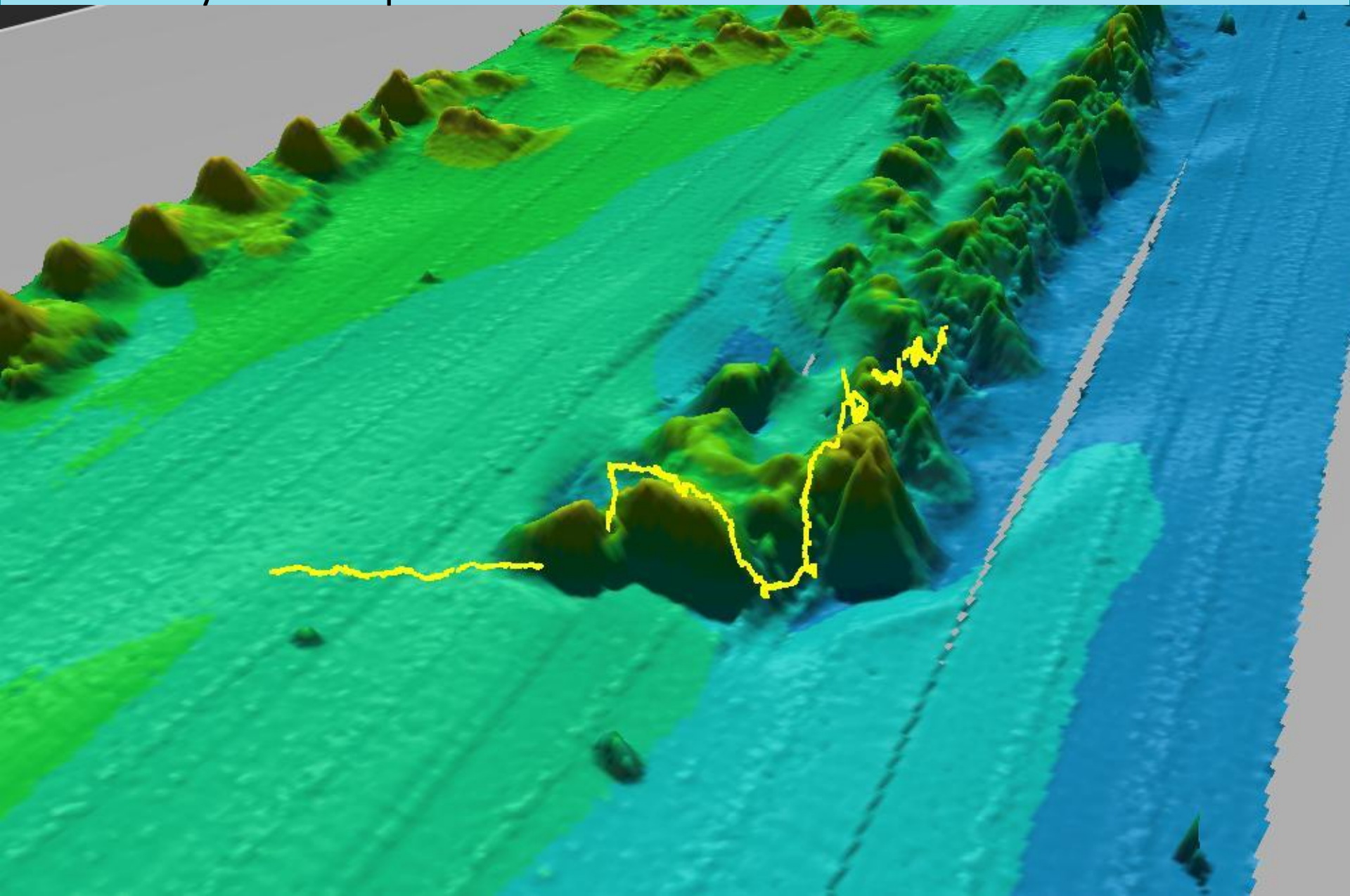
2007-2010 Deep Coral Multibeam Survey Areas

NOAA/CCMA Biogeography

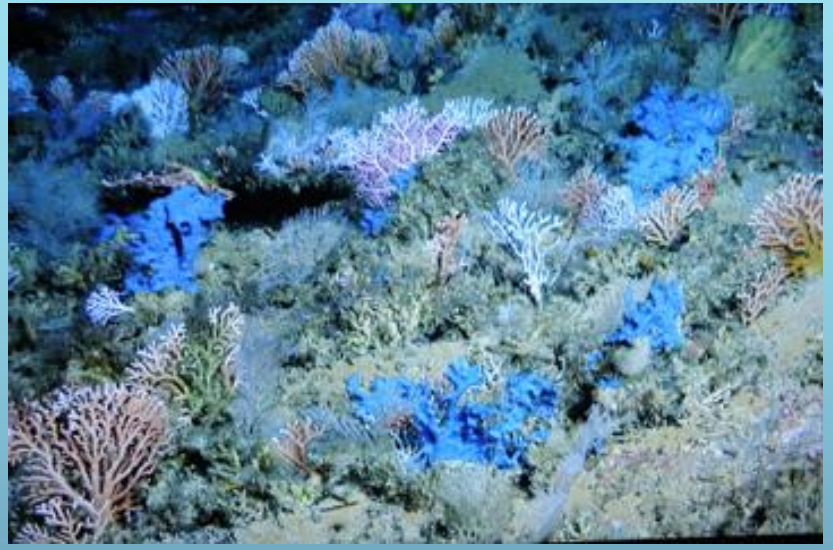


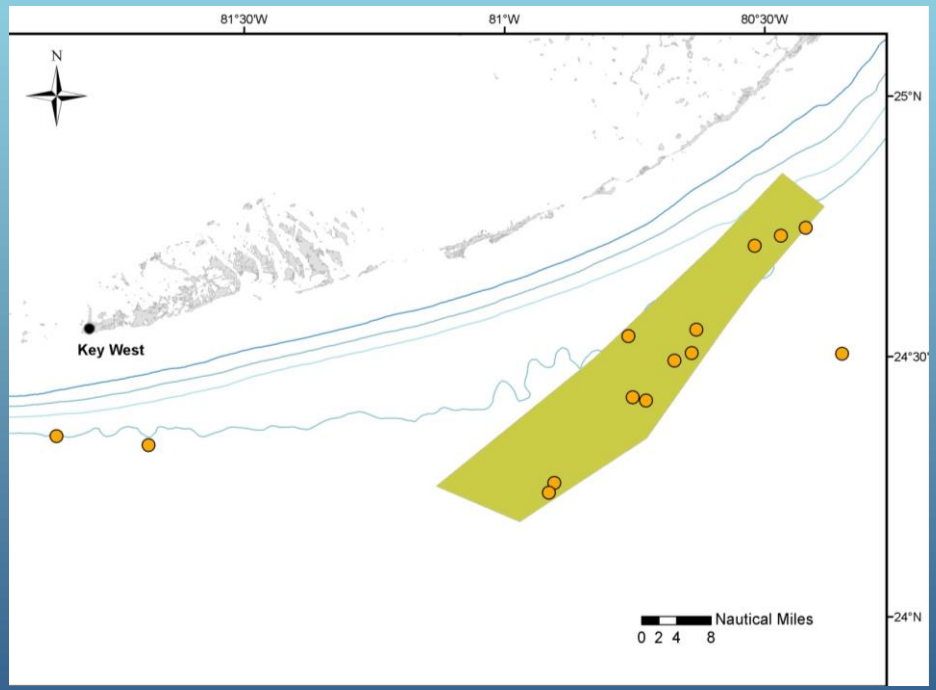
Daytona *Oculina* Pinnacles

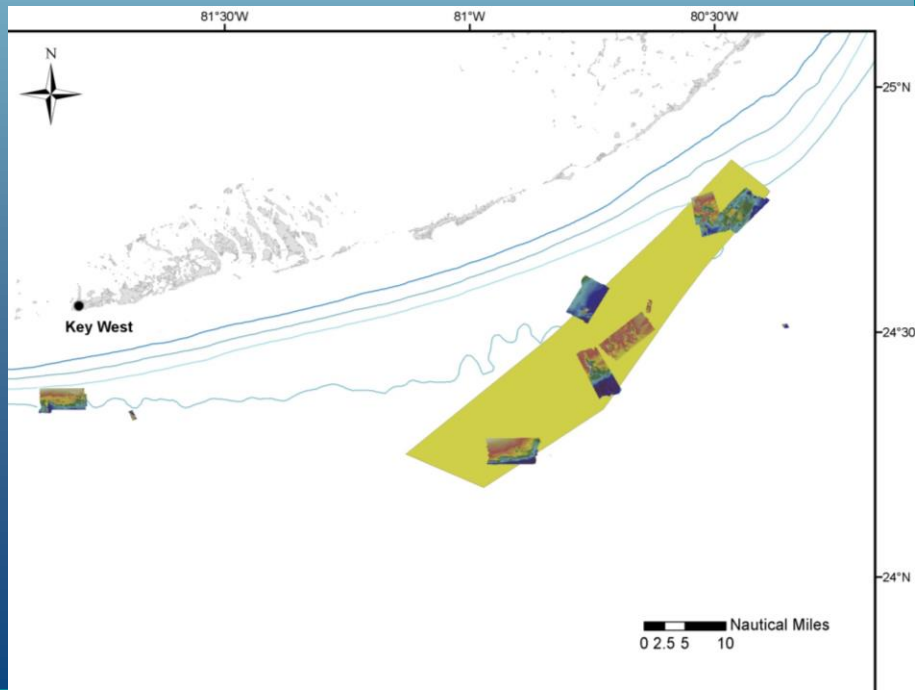
Discovery led to expansion of Oculina HAPC from 300 nm^2 to 600 nm^2



Pourtales Terrace Dive Sites and Mapping Coverage
NOAA Ship *Nancy Foster*, ROV *Kraken II* - UConn







Challenges

There were clearly growing pains during DSC SE I.

The two largest challenges were lack of a defined data management plan and format at the outset of the initiative and procedures used when trying to manage cruises by non-NOAA partners.

- Data management was not fully resolved until Aug 2011, by which time 6 of the 7 cruises had already occurred. Post-hoc attempts to implement the plan met significant resistance from some PIs and resulted in additional expenditures to re-analyze data.
- Non-NOAA Principal Investigators were integral to the DSC SE I plan due to their experience in the region and were very important partners in developing an extramural basic/applied science program that would work for both government and academia. However they often viewed awards as grants which allowed significant flexibility in changing plans as opposed to contracts which required meeting NOAA-derived goals.

Standardized Data Products

- A major challenge in DSC SE I involved the completion and submission of standardized data products.
- Because this was the first regional effort of DSCRTP, many things were happening simultaneously. The format for deliverables was not finalized until many of the cruises had occurred and much of the analyses were complete.
- We incurred significant unplanned costs when some PIs insisted upon additional funds to re-analyze dive videos following the DSCRTP format.
- Missions completed towards the end of DSC SE I were analyzed according to the DSCRTP format and produced SEADESC-style reports.
- There was a lot of pushback from non-NOAA PIs over the requirement to provide detailed information on every occurrence of fish and invertebrates which they saw as a non-standard format compared to density values.

Benthic grab sampling
NOAA Ship *Pisces* 2010

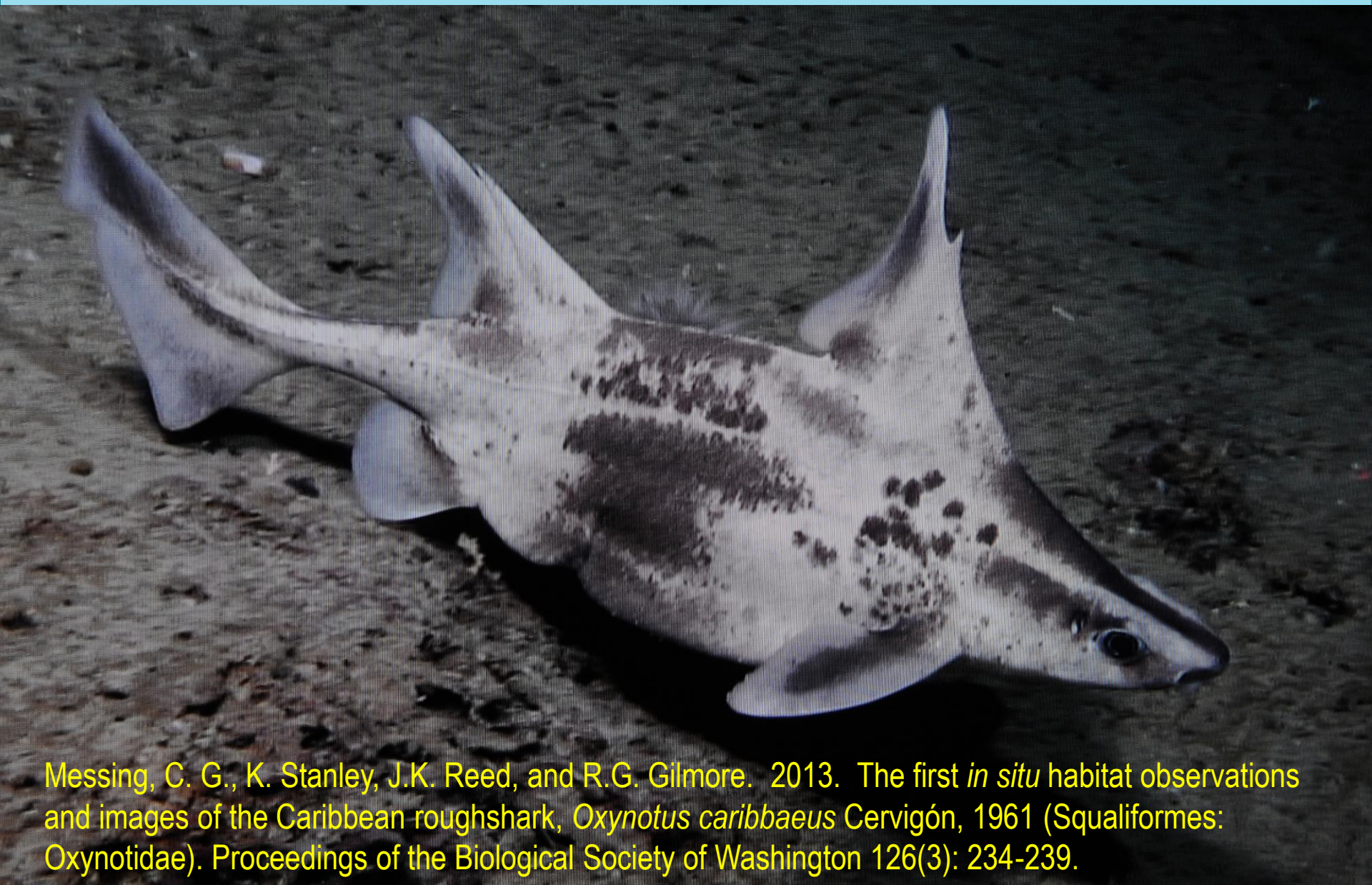
Initiative Operation

- Overall things went quite well with team selection, the amount of mapping and number of cruises, ROV dives, HOV dives, samples collected, etc.; particularly considering this was a new initiative and many things were being done concurrently (i.e., field work and reporting format decisions).

- We had trouble with some non-NOAA PIs who did not want to provide copies of all data they collected and/or did not want to comply with DSCRTP reporting formats.

- Suggestions for future efforts include:
  - Use of dedicated DSCRTP-funded regional program manager (i.e. Dan Wagner and future counterparts in other regions).
  - Treating cruises as contract operations to fulfill program needs rather than grants with more latitude given to PIs. Consider using written contracts.
  - Send DCSTRP data manager on all cruises, don't leave ship without copies of data in hand.

Caribbean Roughshark – *Oxynotus caribbaeus*
First record in CONUS



Messing, C. G., K. Stanley, J.K. Reed, and R.G. Gilmore. 2013. The first *in situ* habitat observations and images of the Caribbean roughshark, *Oxynotus caribbaeus* Cervigón, 1961 (Squaliformes: Oxynotidae). Proceedings of the Biological Society of Washington 126(3): 234-239.

Operations

CRUISE	LOCATION	MULTIBEAM MAPPING	DIVES			REPORTS	
			NUMBER	ANNOTATION	SUMMARY	CRUISE	SITE CHAR
SJ 08-2009	Central FL	n/a	22 Sub	Y*	Y*	Y	Y*
NF 09-2010	Central FL	580 km^2	0	n/a	n/a	N	n/a
Pisces 02-2010	GA	n/a	5 ROV	Y*	Y*	Y	N*
LCE 10-2010	South FL	7460 km^2	0	n/a	n/a	N	n/a
RB 11-2010	GOM, Keys, South FL, North FL	1575 km^2	9 ROV	Y*	Y*	Y	Y*
Pisces 05-2011	Central FL	112 km^2	10 ROV	Y	Y	Y	Y
NF 09-2011	FL Keys	373 km^2	14 ROV	Y	Y	Y	Y
TOTAL		**10,100 km^2**	**38 ROV, 22 Sub**				

Y* indicates a deliverable was produced, but the format differed from final DSCRTP protocol
N* indicates a deliverable which will be produced as a small project in SE DSC II

Lophelia pertusa

Southernmost record in U.S. 24° 14.4673’ N

NOAA Ship *Nancy Foster*, ROV *Kraken II*

Florida Keys

Small Projects

- Were any DSCRTP-sponsored (or other) small projects particularly important to the regional initiative fieldwork?

Yes, Brian Kinlan's Coral Predictive Maps were extremely useful.

- Was regional initiative fieldwork important to seeding new small projects?

Yes, some small projects in DSC SE-II are designed to finalize reporting of data collected in DSC SE-I.

Bamboo Coral NOAA Ship *Ron Brown*, ROV *Jason II*
Image by Art Howard

Conclusions

Most objectives were met because:

- We had a diverse team with considerable experience in field operations and a good network of non-NOAA partners.
- We were able to leverage ship time allocated to other projects.
- Were able to adapt quickly to adverse situations, e.g., weather, equipment or ship issues.

A few objectives were not met because:

- Environmental conditions in Gulf Stream are difficult for ROV operations.
- Development of reporting processes was concurrent with field work.

A few objectives were exceeded because:

- Mapping teams demonstrated outstanding professionalism.
- Local knowledge allowed for on-the-fly adaptation.

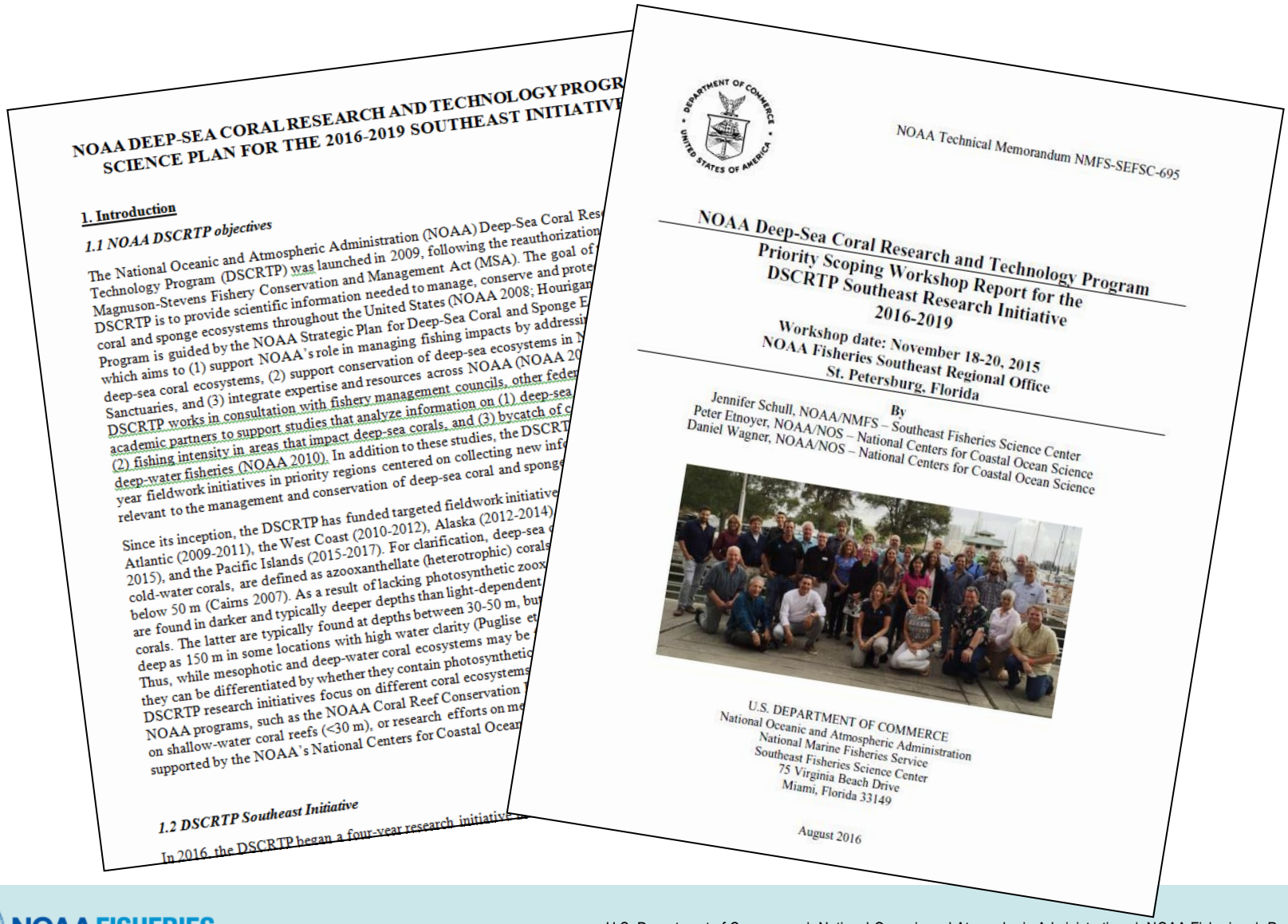
A few objectives were changed because:

- Inclement weather and high currents in the Gulf Stream caused delays or changes in cruise plans, however one of these changes resulted in a significant discovery with management implications.

Greatest Challenge in the Field - Very High Currents

(flow rate slightly exaggerated)

Future Plans and Priorities



NOAA DEEP-SEA CORAL RESEARCH AND TECHNOLOGY PROGR
SCIENCE PLAN FOR THE 2016-2019 SOUTHEAST INITIATIV

1. Introduction

1.1 NOAA DSCRTP objectives

The National Oceanic and Atmospheric Administration (NOAA) Deep-Sea Coral Res
Technology Program (DSCRTP) was launched in 2009, following the reauthorization
Magnuson-Stevens Fishery Conservation and Management Act (MSA). The goal of
DSCRTP is to provide scientific information needed to manage, conserve and prote
coral and sponge ecosystems throughout the United States (NOAA 2008; Hourigan
Program is guided by the NOAA Strategic Plan for Deep-Sea Coral and Sponge E
which aims to (1) support NOAA's role in managing fishing impacts by addressi
deep-sea coral ecosystems, (2) support conservation of deep-sea ecosystems in
Sanctuaries, and (3) integrate expertise and resources across NOAA (NOAA 20
DSCRTP works in consultation with fishery management councils, other feder
academic partners to support studies that analyze information on (1) deep-sea
(2) fishing intensity in areas that impact deep-sea corals, and (3) bycatch of c
deep-water fisheries (NOAA 2010). In addition to these studies, the DSCRT
year fieldwork initiatives in priority regions centered on collecting new inf
relevant to the management and conservation of deep-sea coral and sponge

Since its inception, the DSCRTP has funded targeted fieldwork initiative
Atlantic (2009-2011), the West Coast (2010-2012), Alaska (2012-2014)
2015), and the Pacific Islands (2015-2017). For clarification, deep-sea
cold-water corals, are defined as azooxanthellate (heterotrophic) corals
below 50 m (Cairns 2007). As a result of lacking photosynthetic zoox
are found in darker and typically deeper depths than light-dependent
corals. The latter are typically found at depths between 30-50 m, bu
deep as 150 m in some locations with high water clarity (Puglise et
Thus, while mesophotic and deep-water coral ecosystems may be
they can be differentiated by whether they contain photosynthetic
DSCRTP research initiatives focus on different coral ecosystems
NOAA programs, such as the NOAA Coral Reef Conservation
on shallow-water coral reefs (<30 m), or research efforts on me
supported by the NOAA's National Centers for Coastal Ocean

1.2 DSCRTP Southeast Initiative

In 2016, the DSCRTP began a four-year research initiative

NOAA Technical Memorandum NMFS-SEFSC-695

NOAA Deep-Sea Coral Research and Technology Program
Priority Scoping Workshop Report for the
DSCRTP Southeast Research Initiative
2016-2019

Workshop date: November 18-20, 2015
NOAA Fisheries Southeast Regional Office
St. Petersburg, Florida

By
Jennifer Schull, NOAA/NMFS – Southeast Fisheries Science Center
Peter Etnoyer, NOAA/NOS – National Centers for Coastal Ocean Science
Daniel Wagner, NOAA/NOS – National Centers for Coastal Ocean Science

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
75 Virginia Beach Drive
Miami, Florida 33149

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